

Tucson MSA TERM Report by CIP Program

Training & Education Resource Model

Based on 2006-2008 occupational projections, Education & Training levels 1-11 (no restrictions)

Score = average of the five percentiles, using weights 3, 3, 1, 1, 1

Rank	CIP Code	CIP Title	P e r c e n t i l e s						Labor Market Data					BLS Ed & Train Code
			Score	Open-ings	Wage	ONET	Growth Rate	Turn-over Ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate	Turn-over Ratio	
1	51.16	Nursing	79.1	96	64	82	68	81	565	22.37	659	4.0	2.4	6.3
2	60.02	Medical Residency Programs	76.7	41	100	89	84	93	35	74.29	672	4.4	3.7	1.0
3	14.08	Civil Engineering	74.2	52	85	98	71	86	49	31.65	708	4.0	2.8	5.0
4	44.04	Public Administration	73.9	68	93	77	49	58	91	41.89	651	3.1	1.8	4.2
4	52.02	Business Administration, Management and Operations	73.9	89	80	80	38	41	391	28.87	655	2.8	1.5	6.4
6	14.02	Aerospace, Aeronautical and Astronautical Engineering	73.8	44	99	95	83	57	39	50.05	686	4.4	1.8	5.0
7	52.11	International Business	73.5	61	95	86	48	60	74	44.97	664	3.1	1.8	4.0
8	52.07	Entrepreneurial and Small Business Operations	73.1	61	95	84	47	59	78	43.98	662	3.1	1.8	4.0
9	51.06	Dental Support Services and Allied Professions	73.0	73	63	50	97	99	118	22.29	591	5.5	4.9	8.3
10	51.09	Allied Health Diagnostic, Intervention, and Treatment Professions	71.7	82	57	70	77	83	178	20.51	634	4.2	2.5	6.9
11	43.01	Criminal Justice and Corrections	71.3	95	48	85	73	53	559	19.12	662	4.1	1.8	9.4
12	51.23	Rehabilitation and Therapeutic Professions	68.6	53	75	72	66	95	51	27.01	635	3.9	3.9	3.5
13	22.99	Legal Professions and Studies, Other (NEW)	68.5	32	97	42	90	96	27	48.37	572	4.8	4.2	1.3
14	22.02	Legal Research and Advanced Professional Studies (Post-LL.B./J.D.) (NEW)	68.1	29	98	39	93	98	24	49.38	568	4.9	4.3	1.0
15	22.01	Law (LL.B, J.D.)	68.0	38	94	33	88	97	33	43.05	559	4.7	4.2	1.9
16	13.12	Teacher Education and Professional Development, Specific Levels and Methods	66.4	93	37	61	72	77	489	17.71	615	4.0	2.2	5.2
17	40.06	Geological and Earth Sciences/Geosciences	66.1	25	87	76	92	91	21	33.20	650	4.9	3.4	3.0
18	51.20	Pharmacy, Pharmaceutical Sciences, and Administration	65.7	48	92	29	69	75	43	40.99	554	4.0	2.1	1.0
19	52.01	Business/Commerce, General	65.2	62	89	64	27	42	79	33.72	628	2.4	1.6	4.8
20	30.16	Accounting and Computer Science (NEW)	65.0	58	77	48	59	74	67	28.04	581	3.5	2.1	5.1

Rank	CIP Code	CIP Title	Percentiles						Labor Market Data					BLS Ed & Train Code
			Score	Open-ings	Wage	ONET	Growth Rate	Turn-over Ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate	Turn-over Ratio	
21	52.16	Taxation	64.4	56	78	47	61	70	62	28.48	579	3.7	2.1	5.0
22	13.13	Teacher Education and Professional Development, Specific Subject Areas	63.0	88	33	65	78	61	273	17.47	633	4.3	1.9	5.4
23	52.10	Human Resources Management and Services	62.5	63	59	44	65	87	82	20.87	573	3.9	3.0	4.9
24	15.11	Engineering-Related Technologies	62.0	59	60	87	85	30	69	21.23	665	4.5	1.2	5.9
25	01.02	Agricultural Mechanization	60.2	51	54	72	83	72	48	19.98	635	4.4	2.1	7.0
26	14.14	Environmental/Environmental Health Engineering	59.4	13	81	63	99	92	16	29.10	625	5.6	3.7	4.9
27	13.04	Educational Administration and Supervision	59.4	39	79	88	53	39	33	28.66	670	3.2	1.5	4.0
28	13.10	Special Education and Teaching	58.9	57	41	55	95	85	64	18.00	601	5.3	2.6	5.0
29	47.06	Vehicle Maintenance and Repair Technologies	58.8	83	46	74	39	28	206	18.56	641	2.8	1.2	7.8
30	49.02	Ground Transportation	58.6	92	25	41	55	82	473	14.98	569	3.3	2.4	10.5
31	22.03	Legal Support Services (NEW)	58.2	64	42	8	96	100	83	18.08	503	5.3	5.5	7.1
32	51.22	Public Health	58.0	30	86	95	34	43	26	32.44	692	2.7	1.6	4.0
32	52.15	Real Estate	58.0	75	51	36	52	54	121	19.63	562	3.2	1.8	5.8
34	04.04	Environmental Design	57.4	6	82	81	79	95	12	29.20	658	4.3	4.0	4.9
35	15.08	Mechanical Engineering Related Technologies/Technicians	56.6	65	49	94	45	29	89	19.16	686	3.0	1.2	6.9
36	11.01	Computer and Information Sciences, General	56.5	34	84	71	17	66	28	31.22	634	1.9	2.0	4.8
36	15.05	Environmental Control Technologies/Technicians	56.5	46	50	93	64	65	40	19.23	681	3.8	2.0	8.6
38	52.09	Hospitality Administration/Management	56.3	49	47	69	67	84	44	19.03	634	3.9	2.5	8.3
39	51.15	Mental and Social Health Services and Allied Professions	55.8	79	31	39	57	76	165	16.22	568	3.5	2.2	6.0
40	31.05	Health and Physical Education/Fitness	55.6	69	21	57	94	80	101	14.49	603	5.1	2.3	8.5
40	51.08	Allied Health and Medical Assisting Services	55.6	81	16	30	91	90	177	12.61	555	4.8	3.4	9.3
42	51.07	Health and Medical Administrative Services	55.5	95	29	17	56	55	545	15.86	519	3.3	1.8	8.9
42	52.08	Finance and Financial Management Services	55.5	90	39	3	58	50	403	17.80	492	3.5	1.7	8.7
44	47.03	Heavy/Industrial Equipment Maintenance Technologies	54.8	72	22	83	80	48	117	14.68	659	4.3	1.7	9.8
45	52.19	Specialized Sales, Merchandising, and Marketing Operations (NEW)	54.7	72	62	40	23	28	116	21.92	569	2.1	1.2	8.6

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			Score	Open-ings	Wage	ONET	Growth Rate	Turn-over Ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate	Turn-over Ratio	
46	03.01	Natural Resources Conservation and Research	54.6	4	66	99	95	89	11	23.45	711	5.2	3.2	3.0
46	52.99	Business, Management, Marketing, and Related Support Services, Other	54.6	67	69	46	22	17	90	23.61	578	2.1	1.0	9.0
48	51.26	Health Aides/Attendants/Orderlies	54.1	87	3	38	86	94	258	9.83	566	4.5	3.8	9.1
49	01.01	Agricultural Business and Management	54.0	74	39	61	40	46	120	17.78	617	2.8	1.6	8.7
50	19.02	Family and Consumer Sciences/Human Sciences Business Services	53.5	54	72	43	24	38	57	24.55	573	2.1	1.4	6.2
51	14.21	Mining and Mineral Engineering	53.2	6	65	97	100	67	12	23.19	706	6.1	2.0	4.9
52	52.03	Accounting and Related Services	53.0	91	45	4	28	39	419	18.42	494	2.4	1.4	8.6
53	52.14	Marketing	52.5	43	83	31	30	31	39	29.56	558	2.6	1.2	4.5
54	46.02	Carpenters	52.3	84	28	79	19	34	230	15.82	654	2.0	1.3	9.1
54	46.04	Building/Construction Finishing, Management, and Inspection	52.3	94	24	35	39	44	511	14.97	560	2.8	1.6	9.8
56	15.10	Construction Engineering Technologies	52.2	31	73	58	50	49	27	26.22	604	3.2	1.7	6.0
57	11.10	Computer/Information Technology Administration and Management (NEW)	52.1	20	83	75	17	68	19	29.24	645	1.9	2.0	4.9
58	46.03	Electrical and Power Transmission Installers	51.6	71	43	91	18	14	103	18.24	672	2.0	0.9	9.1
59	52.17	Insurance (NEW)	51.1	80	52	21	25	17	171	19.76	536	2.2	1.0	7.8
60	52.04	Business Operations Support and Assistant Services	50.9	98	17	6	51	56	2,033	12.68	497	3.2	1.8	10.5
61	09.09	Public Relations, Advertising, and Applied Communication (NEW)	50.2	45	72	37	13	50	40	25.67	565	1.7	1.7	5.5
61	51.10	Clinical/Medical Laboratory Science and Allied Professions	50.2	33	70	83	37	23	28	24.25	660	2.8	1.1	5.9
63	11.05	Computer Systems Analysis	49.5	12	76	78	26	78	16	27.76	653	2.4	2.3	4.8
64	12.04	Cosmetology and Related Personal Grooming Services	47.5	85	9	10	63	71	247	11.94	507	3.8	2.1	7.0
65	46.05	Plumbing and Related Water Supply Services	47.2	70	34	90	14	10	101	17.49	672	1.8	0.8	9.4
66	01.06	Applied Horticulture/Horticultural Business Services	47.1	97	10	11	54	37	692	12.02	508	3.3	1.4	10.7
67	11.07	Computer Science	46.3	5	91	62	16	52	12	36.66	618	1.8	1.8	4.5
68	49.01	Air Transportation	46.0	9	88	96	15	11	14	33.44	694	1.8	0.9	7.3

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69	15.12	Computer Engineering Technologies/Technicians (NEW)	45.7	28	74	53	9	40	24	26.81	598	1.3	1.5	5.7
70	51.18	Ophthalmic and Optometric Support Services and Allied Professions	45.3	50	15	28	98	88	47	12.44	553	5.6	3.1	9.9
71	15.07	Quality Control and Safety Technologies/Technicians	45.0	51	53	26	35	32	48	19.94	549	2.7	1.2	9.2
72	13.15	Teaching Assistants/Aides	43.9	83	5	6	60	69	185	10.35	495	3.5	2.0	11.0
73	15.02	Civil Engineering Technologies/Technicians	43.7	3	55	50	87	83	11	20.00	590	4.7	2.5	6.0
74	12.05	Culinary Arts and Related Services	43.4	100	0	2	76	13	3,098	8.15	482	4.2	0.9	10.7
75	47.02	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	43.4	19	44	100	28	73	19	18.37	721	2.4	2.1	9.0
76	19.05	Foods, Nutrition, and Related Services	43.1	77	14	20	61	35	125	12.25	534	3.6	1.3	8.7
77	15.13	Drafting/Design Engineering Technologies/Technicians (NEW)	43.0	42	61	49	21	9	38	21.43	589	2.1	0.8	7.0
78	51.27	Medical Illustration and Informatics	42.7	2	90	56	8	45	10	34.70	602	1.1	1.6	5.4
79	14.10	Electrical, Electronics and Communications Engineering	42.6	1	96	92	0	0	10	46.29	676	-0.1	0.2	4.9
80	52.18	General Sales, Merchandising and Related Marketing Operations (NEW)	40.5	99	6	5	36	7	2,157	10.96	495	2.7	0.6	10.8
81	13.11	Student Counseling and Personnel Services	40.1	47	61	34	1	1	40	21.48	560	0.5	0.3	3.0
82	19.07	Human Development, Family Studies, and Related Services	39.8	86	2	28	44	22	248	8.68	553	2.9	1.1	10.7
83	51.35	Somatic Bodywork and Related Therapeutic Services (NEW)	39.5	55	27	1	62	47	58	15.61	482	3.8	1.7	7.0
84	31.01	Parks, Recreation and Leisure Studies	39.0	37	13	66	75	61	33	12.25	633	4.2	1.9	10.8
85	48.05	Precision Metal Working	38.7	76	23	32	11	8	125	14.92	558	1.6	0.7	9.3
86	45.06	Economics	38.7	22	67	15	42	24	19	23.54	517	2.9	1.1	5.0
86	52.06	Business/Managerial Economics	38.7	22	67	15	42	24	19	23.54	517	2.9	1.1	5.0
88	04.09	Architectural Technology/Technician (NEW)	38.4	17	56	51	50	27	19	20.50	594	3.2	1.1	7.0
89	50.07	Fine and Studio Art	38.1	8	50	14	74	79	14	19.43	516	4.1	2.3	4.3
90	31.03	Parks, Recreation and Leisure Facilities Management	38.0	35	8	67	81	64	32	11.85	633	4.3	1.9	11.0
90	31.99	Parks, Recreation, Leisure and Fitness Studies, Other	38.0	35	8	67	81	64	32	11.85	633	4.3	1.9	11.0
92	51.02	Communication Disorders Sciences and Services	37.8	14	58	73	31	21	17	20.67	641	2.6	1.1	2.5

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			Score	Open-ings	Wage	ONET	Growth Rate	Turn-over Ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate	Turn-over Ratio	
93	46.01	Mason/Masonry	37.4	66	26	24	12	26	89	15.58	545	1.7	1.1	9.3
94	19.09	Apparel and Textiles	36.6	7	71	60	20	16	13	24.36	608	2.0	0.9	5.9
95	47.01	Electrical/Electronics Maintenance and Repair Technology	36.5	60	28	52	3	12	74	15.74	597	0.7	0.9	8.0
96	46.99	Construction Trades, Other	35.1	78	20	12	5	5	143	14.14	508	0.8	0.5	9.7
97	45.07	Geography and Cartography	32.6	15	36	54	70	18	18	17.68	600	4.0	1.0	8.6
98	50.04	Design and Applied Arts	32.1	26	40	45	10	36	21	17.99	576	1.3	1.3	6.5
99	44.07	Social Work	30.3	17	32	18	46	62	19	16.61	527	3.0	1.9	4.8
100	12.03	Funeral Service and Mortuary Science	29.9	10	19	19	89	72	15	13.74	529	4.8	2.1	9.7
101	44.02	Community Organization and Advocacy	29.7	23	38	9	43	33	20	17.74	505	2.9	1.3	9.2
102	25.03	Library Assistant	25.6	39	18	23	29	6	33	13.32	541	2.5	0.6	8.0
103	47.04	Precision Systems Maintenance and Repair Technologies	25.5	11	30	59	32	15	16	16.20	605	2.6	0.9	9.4
104	11.03	Data Processing	22.8	19	35	22	2	20	19	17.63	539	0.5	1.0	8.1
105	10.03	Graphic Communications (NEW)	22.6	40	17	17	7	6	35	12.96	519	1.1	0.6	9.7
106	01.05	Agricultural and Domestic Animal Services	22.5	17	6	13	72	51	19	10.78	516	4.1	1.7	11.0
107	01.04	Agricultural and Food Products Processing	17.7	24	4	25	33	19	21	10.02	545	2.7	1.0	10.9
108	48.07	Woodworking	16.6	27	11	27	6	4	22	12.04	550	1.0	0.4	9.5
109	01.03	Agricultural Production Operations	10.3	28	1	0	6	2	22	8.57	462	0.9	0.3	11.0
110	11.06	Data Entry/Microcomputer Applications (NEW)	5.5	0	12	7	4	3	10	12.24	502	0.7	0.3	10.0

Explanations for Each Column of the TERM Report		
Column		Explanation
A	Rank	This is the rank of the CIP (Classification of Instructional Program) by percentile score as shown in column D. Tie scores get tie ranks. Sometimes scores appear to be a tie, but if carried out to more decimal places, are not. Such CIPs are not assigned tie ranks.
B	CIP Code	CIP (Classification of Instructional Programs) code as assigned by the U.S. Department of Education. See Sources note below for more details.
C	CIP Title	The title of the training program, as assigned by the U.S. Department of Education Classification of Instructional Programs.
D	Score	The score is a weighted average of columns E through I. The weights used are 3, 3, 1, 1, 1, respectively. See Calculation Method note below for more details.
E-I	Percentiles	These 5 columns are the percentile scores of the data in columns J through N. Percentiles scores are used to compute different types of data in the model. For example, wages in dollars and growth in percentages. Tie scores produce tie percentiles.
J	Openings	The projected number of openings expected per year for the occupations within this CIP. If an occupation is contained in more than one CIP, its openings are distributed evenly among those CIPs. Projected openings based on 2006-2008 occupation projections.
K	Hourly Wage	The average of the wages of the occupations contained in this CIP, weighted by the number of openings in each occupation. Wages based on 2006 Occupational Employment Statistics (OES) survey.
L	O*NET Score	O*NET is an acronym for the Occupational Information Network (http://www.onetcenter.org/). This data is a measure of the skills, knowledge, and abilities required for the occupations within this CIP, weighted by the number of openings in each occupation. The numerical score for each comparative occupational descriptor in the O*NET Knowledge, Skills, and Abilities data files were summed for each occupation. See Sources note below for more information.
M	Growth Rate	The two-year projected rate of growth in employment of the occupations in this CIP, weighted by the number of openings in each occupation. This number could be negative but usually is not. Occupational growth rate is from the 2006-2008 Occupational Projections produced by the AzDES Research Administration.
N	Turnover Ratio	This is the projected number of annual openings due to growth divided by the projected number of annual openings due to replacement (like retirements, quits, promotions, etc.). Higher ratios indicate lower turnover. Based on the 2006-2008 occupational projections data.
O	BLS Education & Training Code	The job training and educational levels as assigned by the Bureau of Labor Statistics (BLS). See detailed descriptions of the BLS codes on page two of these notes. Note that higher numbers indicate lower amounts of education or training time.

Sources	
1	Openings and wage data are produced by the Arizona Department of Economic Security, Research Administration, in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics. Wages are from the 2006 OES survey, and openings are from the 2006-2008 occupational employment projections.
2	For the O-Net score, the O-Net database, www.onetcenter.org/database.html , version 11.0, was used.
3	CIP / SOC crosswalk source: National Crosswalk Service Center http://www.xwalkcenter.org/xwxwalk.html#SOCCIP
4	The education levels are from the Bureau of Labor Statistics website at ftp://ftp.bls.gov/pub/special.requests/ep/optddata/
Calculation method	
1	Hourly wages were calculated by dividing annual wages by 2080.
2	All scores were first calculated by occupation using the SOC (Standard Occupational Code). The scores for each 6-digit SOC were calculated by averaging the scores for the 8-digit SOC's that comprise each 6-digit SOC.
3	In this iteration of the TERM, there were no restrictions on the BLS Training and Educational code. Note that the lower the training and educational time requirement, the higher the code numbers (see below).
4	Statistics by CIP (Classification of Instructional Programs) (except openings) were calculated by taking an openings-weighted average of the occupations in the CIP. For occupations appearing in more than one CIP, openings were evenly distributed among the CIPs. For example, if an occupation had 30 openings and was found in 3 CIPs, that occupation would be listed as having 10 openings in each of the 3 CIPs. After the openings were distributed in this manner, the number of openings in each CIP was calculated by summing the openings for each occupation within the CIP.
5	Percentiles were calculated for each statistic shown. In case of a tie, the same percentile was assigned to all CIP's involved in the tie.
6	The following formula determined the score for each CIP: $(3 \times \text{openings percentile} + 3 \times \text{wage percentile} + \text{ONET percentile} + \text{growth percentile} + \text{ratio percentile}) / 9$
BLS Education Codes	
1	First professional degree
2	Doctoral degree
3	Master's degree
4	Bachelor's or higher degree, plus work experience
5	Bachelor's degree
6	Associate degree
7	Post-secondary vocational training
8	Work experience in related occupation
9	Long-term on-the-job training
10	Moderate-term on-the-job training
11	Short-term on-the-job training
Questions and Comments	
	Direct questions or comments to Rick Van Sickle, 602-542-6481, John Graeflin, 602-542-6492, or Don Wehbey, 602-542-3686, at Research Administration, Arizona Department of Economic Security.